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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

VO, HAI

ART UNIT	PAPER NUMBER
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1771

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DATE MAILED: 07/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/800,588

Applicant(s)

TOMASI, GIAMPAOLO

Examiner

Hai Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 16-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-15, drawn to a polyurethane foam, classified in class 428, subclass 314.4.
  - II. Claims 16-26, drawn to a process of making a heat insulating building element, classified in class 156, subclass various.
  - III. Claim 27, drawn to a liquid catalytic composition, classified in class 521, subclass various.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product as claimed can be made by another and materially different process such as one that sandwiches a rigid polyurethane foam preform between a couple of supporting substrates so as to eliminate the curing and foaming steps.

Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04,

MPEP § 808.01). In the instant case the different inventions relate to completely different materials, one directed to a heat insulating element and other to a catalytic composition.

Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions relate to completely different materials, one directed to a rigid, closed cell polyurethane foam and other to a catalytic composition.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with Stephen L. Peterson on 07/03/2002 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-15. Affirmation of this election must be made by applicant in replying to this Office action. Claims 16-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, and 11-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 716107. EP'107 discloses a heat insulation panels made from plates and rigid polyurethane foam provided by a reaction of a polyisocyanate with a polyol composition mixture comprising a polyol, water, a catalyst and a chain extender (abstract). EP'107 is silent as to the closed cell structure of the foam. However, EP'107 discloses the foam is useful as an excellent insulation material (page 3, lines 32-33), it is the examiner's position that the foam in EP'107 would inherently have the closed cell structure in order to satisfy an insulating property. All claim 1 requires is a rigid polyurethane foam consisting of closed cells substantially free therein of optionally halogenated hydrocarbon foaming agents. Since EP'107 meets the claim limitations, the adhesion strength, percent linear dimensional variation, friability, heat conductivity would be inherently present. With regard to claim 14, figure 3b of EP'107 shows a plastic sealant **31** and a piece of moisture preventive tape **32** to keep the foam inside the panels. With regard to claim 15,

EP'107 discloses an insulation panel made from the rigid foam having been used as a building wall (page 2, lines 33-34). It is the examiner's position that EP'107 anticipates or strongly suggests the claimed subject matter.

7. Claims 1-4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Porosoff et al (US 5,102,923). Porosoff discloses a rigid polyurethane foam having predominantly closed cells substantially free therein of optionally halogenated hydrocarbon foaming agents (claim 1 and table 1). All claim 1 requires is a rigid polyurethane foam consisting of closed cells substantially free therein of optionally halogenated hydrocarbon foaming agents. Since Porosoff reference meets the claim limitations, the adhesion strength, percent linear dimensional variation, friability, heat conductivity would be inherently present. It is the examiner's position that Porosoff anticipates or strongly suggests the claimed subject matter.
8. Claims 5, and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 716107 or Porosoff et al (US 5,102,923). Table I of EP'107 discloses the foam composition meeting the specific ranges as required by the claim except the concentration of isocyanate. The foam composition of Porosoff does not meet the specific ranges as claimed in the present invention (table 1). However, such as variable would have been recognized by one skilled in the art as dependent upon the various degrees of desired physical properties of the foam, i.e., flame retardancy of a polyurethane foam increases with increasing amount of polyisocyanate. As such, it would have been obvious to one having

ordinary skill in the art at the time the invention was made to employ the claimed amount of isocyanate, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claims 7-9, EP'107 discloses the polyurethane foam comprising 3 parts of polyether polyol having a minimum functionality equal to 2 and a hydroxy number of from 50 to 400 (table IV, page 3, lines 53-54). EP'107 discloses the polyurethane foam comprising a phosphorated polyol and a flame retardant agent (page 10, lines 35-45; and page 12, line 1). Porosoff discloses the polyurethane foam comprising the derivatives of polyether polyol (column 4, lines 41-58). Porosoff discloses the polyurethane foam comprising a phosphorated polyol and a flame retardant agent in an amount of 10 to 40% by weight (column 11, lines 1-35). Since concentration is recognized as a result-effective variable, differences in concentration or will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical or provides unexpected results. Such a variable would have been recognized by one skilled in the art to effect the foaming, and to impart the compression and adhesion strengths, as well as the flame retardancy of the foam. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the foam composition having the claimed concentration range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the

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optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claim 10, EP'107 discloses the polyurethane foam comprising a trimerization catalyst (page 12, line 16). Porosoff discloses the polyurethane foam comprising a trimerization catalyst (column 9, lines 54-55).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 716107 or Porosoff et al (US 5,102,923) as applied to claim 1 above, further in view of Baron (US 4,328,322). The primary reference fails to suggest or disclose the reacting polyamine having a recited formula. Baron teaches a process for the preparation of a synthetic polymer by reaction of a polyisocyanate with an oligomeric di(aminobenzoate) ester of polytetramethylene oxide diol having such a recited formula (column 16, lines 40-50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have such a polyamine of Baron in the mixture of ingredients of EP'107 or Porosoff motivated by the desire to improve mechanical strength of the foam.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 716107 or Porosoff et al (US 5,102,923) as applied to claim 1 above, further in view of Kushner et al (US 6,020,392). The primary reference fails to suggest or disclose the reacting polyamine having a recited formula. Kushner teaches a process making a polyurea foam by reacting polyisocyanate with di(aminobenzoate) ester having such a claimed formula (column 4, lines 10-34). It would have been obvious to one having ordinary skill in the art at the time the



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invention was made to have such a polyamine of Kushner in the mixture of ingredients of EP'107 or Porosoff motivated by the desire to improve mechanical strength of the foam.

**Conclusion**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Monday to Friday, 8:30 to 5:00 (EAST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV  
July 11, 2002

  
ELIZABETH M. COLE  
PRIMARY EXAMINER